

REMARKS

In view of the following remarks, Applicant respectfully requests reconsideration and allowance of the subject application. This communication is believed to be fully responsive to all issues raised in the 12/14/04 Office Action.

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## CLAIM REJECTIONS §102

Claims 1-12 are rejected under §102 as being anticipated by US Patent No. 5,006,202 to Hawkins et al (hereinafter, "Hawkins").

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Claims 13, 15-20 and 30-32 are rejected under §102 as being anticipated by US Patent No. 6,303,042 to Hawkins et al (hereinafter, "Hawkins").

Claims 21-22 and 29 are rejected under §102 as being anticipated by US Patent No. 6,273,557 to Milligan et al (hereinafter, "Milligan").

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Claims 21-26 and 29 are rejected under §102 as being anticipated by US Patent Publication No. 2003/0141279 to Miller et al (hereinafter, "Miller").

## CLAIM REJECTIONS §103

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Claims 13-20 and 30-32 are rejected under §103 as being unpatentable over US Patent No. 6,303,042 to Hawkins et al (hereinafter, "Hawkins").

Claims 21-22 and 27-29 are rejected under §103 as being unpatentable over US Patent No. 6,273,557 to Milligan et al (hereinafter, "Milligan").

**Claim 1** is directed to a print head die forming method and is amended to

5 recite:

- forming a plurality of fluid-handling passageways and ejection chambers over a first surface of a substrate;
- subsequent to said forming a plurality of fluid-handling passageways and ejection chambers, forming a first patterned masking layer sufficient to expose a desired area of a second  
10 generally opposing surface of the substrate;
- after forming the first patterned masking layer, forming a second patterned masking layer sufficient to expose less than the entirety of the desired area of the first surface;
- 15 • forming a slot portion in the substrate through the second patterned masking layer; and,
- removing additional substrate material to form a fluid-handling slot sufficient to supply fluid from the second surface through the substrate to the first surface and the fluid handling  
20 passageways.

These limitations are not described or taught by the art of record. Accordingly, Applicant respectfully requests that the §102 rejection of claim 1 be withdrawn.

Claims 2-8 depend from allowable claim 1 and are allowable for at least the reasons described above in relation to claim 1. Accordingly, Applicant respectfully requests that the §102 rejections of claims 2-8 be withdrawn.

Claim 9 is directed to a fluid-feed slot forming method and is amended to recite:

- 10                   • forming a plurality of fluid-handling passageways and ejection chambers over a first substrate surface;
- subsequent to said forming a plurality of fluid-handling passageways and ejection chambers over a first substrate surface, patterning a hard mask on a generally opposing second substrate surface sufficient to expose a first area of the first surface;
- 15                   • forming a slot portion in the substrate through less than an entirety of the first area of the first surface, the slot portion having a cross-sectional area at the first surface that is less than a cross-sectional area of the first area; and,
- 20                   • after forming the slot portion, etching the substrate to remove material from within the first area to form a fluid-handling slot

between the first and second surfaces sufficient to supply fluid to the fluid-handling passageways.

These limitations are not described or taught by the art of record. Accordingly, Applicant respectfully requests that the §102 rejection of claim 9 be  
5 withdrawn.

Claims 10-12 depend from allowable claim 9 and are allowable for at least the reasons described above in relation to claim 9. Accordingly, Applicant respectfully requests that the §102 rejections of claims 10-12 be withdrawn.

Claim 13 is directed to a printhead substrate forming method and is  
10 amended to recite:

- forming a plurality of fluid-handling passageways and ejection chambers over a first substrate surface;
- subsequent to said forming a plurality of fluid-handling passageways and ejection chambers, exposing a first portion of  
15 a second generally opposing substrate surface through a hard mask;
- forming a photoresist over the hard mask and the first portion;
- removing at least some of the photoresist to expose a second portion of the substrate surface through which a slot portion is  
20 to be formed;
- dry etching the substrate through the photoresist sufficient to form the slot portion; and,

- after said dry etching, wet etching the substrate to form a fluid-handling slot through the substrate to supply fluid received at the second surface through the substrate and to the fluid-handling passageways and ejection chambers.

5        These limitations are not described or taught by the art of record. Accordingly, Applicant respectfully requests that the §102/103 rejections of claim 13 be withdrawn.

      Claims 14-20 depend from allowable claim 13 and are allowable for at least the reasons described above in relation to claim 13. Accordingly, Applicant  
10       respectfully requests that the §102/103 rejections of claims 14-20 be withdrawn.

      Claim 21 is directed to a printhead forming method and is amended to recite:

- forming a fluid-handling slot extending between a thin-film surface of a substrate and a generally opposing backside surface  
15       of the substrate, the slot extending along a long axis that lies generally parallel to the thin-film surface, wherein the slot has a cross-section taken transverse the long axis that is defined, at least in part, by one sidewall, wherein at least a first portion of the one sidewall is generally parallel to the thin-film surface of  
20       the substrate, and wherein a second portion of the one sidewall is generally perpendicular to the thin-film surface, and wherein a third portion of the sidewall extends from the second portion

to the thin-film surface of the substrate and defines an obtuse angle with the second portion as measured through the slot.

These limitations are not described or taught by the art of record. Accordingly, Applicant respectfully requests that the §102/103 rejections of claim 21 be withdrawn.

Claims 22-29 depend from allowable claim 21 and are allowable for at least the reasons described above in relation to claim 21. Accordingly, Applicant respectfully requests that the §102/103 rejections of claims 22-29 be withdrawn.

Claims 30-32 are cancelled without prejudice. Accordingly, Applicant respectfully requests that the §102/103 rejections of claims 30-32 be withdrawn.

CONCLUSION

Claims 1-29 are in condition for allowance. Applicant respectfully  
requests reconsideration and prompt issuance of the present application. Should  
any issue remain that prevents immediate issuance of the application, the  
5 Examiner is encouraged to contact the undersigned attorney to discuss the  
unresolved issue.

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Respectfully Submitted,  
Lee & Hayes, PLLC  
421 W. Riverside Avenue, Suite 500  
Spokane, WA 99201

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Paul Mitchell  
Reg. No. 44,453  
Phone No. (509)324-9256